SYNOPSIS OF THESIS

DOCTOR OF PHILOSOPHY (Ph.D.) IN CLINICAL PSYCHOLOGY

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"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

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"Applications of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

State of Art

Substance use disorders are a public health concern across the globe due to its high prevalence and debilitating nature, India is no exception, epidemiological studies in India suggest a high prevalence rate.[1] These disorders are usually accompanied by multiple comorbidities amounting to poor prognosis and further poorer treatment compliance and outcomes, one such underlying variable is antisocial attitude and behaviors, which in turn stem from deep rooted cognitive biases, deficits in executive functioning and emotion regulation difficulties.

Antisocial Behavior and ASPD

Antisocial behavior may be broadly operationalized according to three major categories [2]:

1. Clinical psychiatric diagnoses,
2. The violation of legal or social norms, and
3. Aggressive or violent behavior.

Clinical diagnostic categories most frequently associated with ASB are CD, oppositional defiant disorder (ODD), antisocial personality disorder (ASPD), and psychopathy.

Table 2.3 ASPD Core Pathological Content (Criterion A)

1. Identity	The individual displays an inability to understand that another person's view or opinion may be different from their own. The individual's self-worth and confidence are derived from personal gain, power, or pleasure.
2. Self-direction	The individual sets goals based upon personal gratification and lacks personal values, beliefs, and views that conform to legal or cultural norms of ethical behavior.
3. Empathy	The individual is without interest in the feelings, needs, or anguish of others. He or she is without guilt or compassion after hurting or harming another.
4. Intimacy	The individual is incapable of reciprocal close relationships, due to the relationship being primarily based on manipulation, deceit, or coercion of others. Individual may engage in subjection or bullying to control others.

Table 2.4 ASPD Surface Content (Pathological Personality Traits)

1. Manipulativeness	To meet this criterion, the individual must use deception repeatedly to influence or control others and deliberately entice, allure, "smooth talk," or attempt to gain favor with another to achieve one's ends.
2. Callousness	To meet this criterion, the individual must be without consideration for the feelings or problems of others, be without regret or shame about the adverse or damaging effects of one's actions on others, and possess and display hostility and cruelty.
3. Deceitfulness	To meet this criterion, the individual must engage in and have a history of deceit cheating, lying, or deceiving someone, giving false or misleading information about oneself, and exaggerate and spout untruths regarding events.
4. Hostility	To meet this criterion, the individual must often and continually feel and express anger and petulance to minor affronts and offense with cruel, offensive, or retaliatory behavior.
5. Risk taking	To meet this criterion, the individual must participate in dangerous, risky, and potentially self-damaging activities, needlessly and with disregard for penalties in an effort to mitigate boredom while paying little to no attention or awareness to the individual's actual abilities and how this could cause harm to the self.
6. Impulsivity	To meet this criterion, the individual must rapidly respond to stimuli without plan or regard for the outcome and have impairment developing plans and following through.
7. Irresponsibility	To meet this criterion, the individual must possess and exhibit disdain and neglect for financial and other obligations or commitments and have disrespect for, and a history of reneging on, promises, arrangements, and responsibilities.

Prevalence of Antisocial Behavior

Most studies report the prevalence of AsPD to be between 2% and 3% in the general population.[3-5] A systematic review and meta-analysis of the prevalence of personality

disorders in the general adult population in Western countries found a prevalence rate for AsPD of 3%. [6] Prevalence rates are considerably higher in men compared with women [5,7] and a 3:1 ratio of men to women has been described.[7] It has also been suggested that there are sex differences in how this condition may present, with women with AsPD being less likely than men with AsPD to present with violent antisocial behaviour.[9] McGilloway [10] puts forth that AsPD may be less likely to be diagnosed in non-white populations.

A systematic review of mental disorders in prisoners examined 62 studies from 12 countries and reported the prevalence of AsPD in male prisoners to be 47%, with prisoners approximately 10 times more likely to have AsPD than the general population [11].

The condition is associated with a wide range of disturbance, including greatly increased rates of criminality, substance use, unemployment, homelessness and relationship difficulties as well as negative long-term outcomes. [12]

Self-serving Cognitive distortions

Barriga, et al. [13] Cognitive distortions as "inaccurate or biased ways of attending to or conferring meaning upon experiences"

Self-serving Cognitive Distortions is used to define cognitive distortions that are specifically associated with externalizing behaviors such as aggression and delinquency. [13]

Executive function is an umbrella term encompassing a diverse range of cognitive processes and behavioral competencies to facilitate the initiation, planning, regulation, sequencing, and achievement of complex goal-oriented behavior and thought. [14]

Executive function has been defined as a high-order cognitive ability that supervises basic underlying cognitive functions associated with self-regulation of future goal-directed behaviour. [15]

The cognitive processes involved in executive function are abstract reasoning, attentional control, cognitive flexibility, hypothesis generation, inhibition, response sequencing, set shifting, strategic goal planning, and use of information in working memory. [16]

Emotional Dysregulation

Gratz and Roemer [15] use six dimensions in defining Emotional Dysregulation:

(a) lack of awareness of emotional responses,

(b) lack of clarity of emotional responses,

(c) non-acceptance of emotional responses,

(d)limited access to emotional regulation strategies perceived as effective,

(e) difficulties controlling impulses when experiencing negative emotions; and

(f) difficulties engaging in goal-directed behaviours when experiencing negative emotions.

Review of Literature

Antisocial Personality and Substance use disorders

There is a particularly strong association between AsPD and substance use disorders.[16] Compared to those without AsPD, those with AsPD are 15 times more likely to meet the criteria for drug dependence and seven times more likely to meet the criteria for alcohol dependence.[17] Guy[18] reported that 77% of people with AsPD met the lifetime criteria for alcohol use disorder.

Cognitive Distortions and Antisocial Behaviors

Previous research has provided some evidence for a link between cognition and antisocial behavior.[19-23], and that offenders displayed distinct criminal thinking patterns was observed in early clinical work by Yochelson and Samenov.[24]

Sestir and Bartholow [25] concluded that there is strong evidence, both from practice and research, for a link between cognition and aggressive behavior.

In a meta-analytic study, Gendreau, et al.[26] found that criminogenic needs such as antisocial cognitions, values, and behaviors were the best predictor of adult recidivism. In line with this, antisocial attitudes also seem to be associated with misbehavior inside institutions and with lower levels of treatment engagement, poorer treatment motivation, and lower levels of psychosocial functioning among drug-using offenders.[27]

It is supposed that the basic operations involved in human cognition, namely perception, memory, judgment, and decision-making, are somewhat 'deviant' in antisocial individuals. All aspects of these operations involve a complex interplay of perceptual (e.g., attention), thinking (e.g., concept formulation) and memory processes (e.g., retention, retrieval). The particular way in which these operations appear to function in antisocial individuals are commonly referred to as 'cognitive distortions', which serve to justify, minimize and facilitate offending behaviour.[28,29]

Cognitive Distortions are conceptualized according to four main theoretical frameworks: social information processing, moral disengagement, moral developmental delay, and cognitive distortions related to moral delay.[30]

Cognitive distortions associated with antisocial behavior stems from social information processing theory [31,32], where cognitive distortions are characterized as biases in the processing that mediates between incoming stimuli and behavioral responses.

The Social Information Processing theory

The Social Information Processing (SIP) framework assumes that behaviour is led by cognition, and suggests that it is not the specific situation that needs to be analysed, but one's own interpretation of it and personal motivations guiding to response enactment.[32]

"SIP theory proposes that individual differences in behavioural responses to social situations are caused by individual differences in mental processing".[33]

In the Netherlands, Orobio de Castro, et al.[33] tested the various SIP steps in a sample of 7-to-13-year-old aggressive boys in clinical or special education institutions for antisocial behavior problems, and comparison peers. Participants were asked to answer questions in ambiguous stories concerning being hindered by a peer. Results showed that antisocial boys, in respect to comparison peers, attributed more hostile intents and happiness to perpetrators of ambiguous acts, and less feelings of guilt or shame; they felt angrier and generated more aggressive responses, evaluated aggressive responses less negatively and mentioned less adaptive emotion regulation strategies.

Typological Model of Self Serving cognitive distortions *Gibbs [34]; Barigga et al. [35]*

Gibbs and Potter [34] introduced a four-category typological model of self-serving cognitive distortions:

1. Self-Centered,
2. Blaming Others,
3. Minimizing/Mislabeling, and
4. Assuming the Worst.

Self-Centered cognitive distortions are defined as attitudes where the individual focuses on his/her own opinions, expectations, needs, and rights to such

an extent that the opinions or needs of others hardly ever or never are considered or respected.

Blaming Others involves cognitive schemas of misattributing the blame for one's own behavior to sources outside the individual (i.e. external locus of control).

Minimizing is defined as distortions where the antisocial behavior is seen as an acceptable, perhaps necessary, way to achieve certain goals. Mislabeling is defined as a belittling and dehumanizing way of referring to others.

Assuming the Worst represents cognitive distortions where the individual attributes hostile intentions to others, considers the worst-case scenario as inevitable or sees his/her behavior as beyond improvement.

Neuropsychological Deficits in Antisocial behaviors:

It has been argued that neuropsychological impairments may be a key mechanism mediating the effects of genetic and psychosocial influences on ASB. [35-37]

Impairments in the neuropsychological processes of executive functioning (EF), which include a collection of cognitive functions necessary for self-regulation and the regulation of socially appropriate behavior, have received considerable research attention in relation to ASB.

EF impairments are hypothesized to increase the risk of engaging in ASB through decreasing behavioral inhibition, impairing the ability to anticipate behavioral consequences and assess punishment and reward, and damaging the capability to generate socially appropriate behavior in challenging contexts. [38,39]

Impairments in EF have consistently been linked to various operationalizations of ASB, including criminality, delinquency, physical aggression, conduct disorder, psychopathy, and antisocial personality disorder. [40]

Morgan and Lilienfeld [40] conducted a meta-analysis to quantify the association between ASB and EF. The results of the study indicated that a robust association existed between ASB and EF that held across varying study methodologies. The results of the meta-analysis indicated that the grand mean weighted effect size for all studies was a difference of .62 standard deviations between antisocial and comparison groups on all EF measures, with 79 percent of all study effect sizes being positive. These results

indicated that antisocial individuals performed significantly worse on EF measures compared with comparison groups. The effect sizes were, however, heterogeneous across the studies, indicating that the grand mean effect size was not derived from a single population of studies. Effect sizes were found to vary according to the type of ASB, with the largest effects found for criminality (d = 1.09) and delinquency (d = .86), and small-to-medium effects found for CD (d = .40) and psychopathy (d = .29).

Specifically, certain aspects of executive dysfunction have been implicated in antisocial behaviour, which include failure to inhibit socially unacceptable behaviors, impulsive conduct, and disregard for negative consequences due to a focus on immediate rewards, as well as deficits in hypothesis generation and cognitive flexibility, which lead to misunderstanding others' intentions and impulsive behavior. (Dinn & Harris, [41])

Henry and Moffitt [42] observed deficiencies in sustained attention, abstract reasoning, concept formation, goal implementation, and recognition and modification of maladaptive behavior in individuals with antisocial personality disorder.

A meta-analysis by Ogilvie et al.[2] conducted on 126 studies involving 14,786 participants confirmed a moderately strong relationship between antisocial behavior and poor executive function across a broad range of populations and methods. Specifically, the antisocial behavior groups (i.e., incarcerated offenders, individuals with aggressive, violent or delinquent behavior, psychopathic personality, conduct disorders, and antisocial personality disorders) performed almost half a standard deviation worse (d = .44) on measures of executive function compared with the control groups

Antisocial Behavior and Impaired Emotion Regulation

Vassileva, et al.,[43] found evidence for a cluster of individuals with convictions who showed elevated anxiety scores as well as severe drug and alcohol problems. Furthermore, positive correlations between antisocial and lifestyle features of psychopathic personality have also been observed with stress reaction, aggression, and overall negative emotionality [44], with trait anxiety and social anxiety[45], and with emotional distress, fearfulness, and anger hostility in a sample of individuals with convictions.[46]

Substance Use and Emotional Dysregulation

Baker et al.[47] in their affective processing model of negative reinforcement in addiction suggests that substance use is driven by attempts to avoid or escape emotional states perceived as aversive.

The model suggests that individuals who do not have access to other strategies for tolerating or managing negative emotional states may develop a reliance on substance use as a method for obtaining quick relief from aversive internal states.

Likewise, Brady and Sinha's stress-based model of addiction [48] emphasizes the role of substance use and abuse in promoting dysregulation in the biological stress system, with concomitant disruptive effects on emotional reactivity, impulse control, and greater distress. [49]

Various researchers including Bonn-Miller et al.[50]; Petit et al., [51] have found that emotion dysregulation is positively correlated with both alcohol dependence and marijuana use. Garke and colleagues [52] studied Emotional dysregulation across various levels of substance use and found that emotion regulation difficulties increase as substance use severity and frequency increase.

Likewise, the observed association between increased negative affect and concomitant decreased positive affect with alcohol cravings has been attributed to difficulties in the regulation of such affect (Khosravani et al., 2017).

Integrative psychotherapy and Antisocial Behaviours

Researchers have used Integrative psychotherapy approaches for the treatment of patients with dominant symptoms of acting out and violence against intimates with the rationale that treatment planning, as well as the adjustment of therapeutic strategies and techniques within the treatment process itself, can systematically refer to the etiology and maintenance factors of the multidimensional diathesis stress models. In addition, the integrative, multidimensional treatment approach can aim especially at the multidimensional treatment objectives which are postulated and at least partly empirically supported as being significant in treatment and prevention programs for antisocial, violent behavior. [53,56]

These are treatment objectives like:

1. The enhancement of social-emotional skills, empathy, and morality, for example, by modeling, operant and respondent techniques, role playing, therapeutic homework, moral dilemma techniques, mirroring, free association, and guided imagery;

2. The reduction of psychophysiological arousal in favor of impulse control and mastery, for example, by relaxation therapy, self- control techniques, distraction techniques, thought stop, and delayed negative feedback techniques;

3. The development of adaptive self-statements, for example, by cognitive restructuring of self-defeating thought patterns and social- cognitive biases misinterpreting others' ambiguous social behavior, and anger control training;

4. The reconstruction of attachment abilities, trust, and social relationships, for example, by resource activation, focusing, behavior and problem analyses, biographical analyses, development of life projects, role playing, and therapeutic homework; and

5. The reduction of deviant peer influences in favor of non-deviant peer relations including social support and supervision by peers, for example, by therapeutic involvement of nondeviant peers, and modeling.

Problems to be investigated

The present study aims to investigate the role of self-serving cognitive distortions and executive dysfunctions in antisocial behaviors among substance users in inpatient tertiary setup and study the application of integrative psychotherapy in enhancing treatment outcomes.

Experimental group: Proposed Intervention - 20 Participants receive Integrative psychotherapy + Pharmacotherapy

Control group: Treatment as usual (TAU) - 20 Participants receive Pharmacotherapy (Medicine assisted therapy) and Motivational enhancement therapy (MET)

Outcome Variables

1. Difficulty in regulating emotions
2. Self-serving cognitive distortions
3. Executive dysfunction
4. Substance use parameters including craving, readiness to change and locus of control.

OBJECTIVES OF THE INVESTIGATION AND MOTIVATION

Objectives

1) To assess the application of Integrative Psychotherapy on outcome measures of difficulty in regulating emotions, self-serving cognitive distortions, Executive functioning, and substance use among inpatient substance users with antisocial behaviors.
2) To assess and compare the symptoms and severity of difficulty in regulating emotions, self-serving cognitive distortions, executive functioning at pre intervention level (at Baseline) and post intervention (at time of discharge) in patients with Substance use with antisocial behavior in control and experimental group.
3) To assess and compare the sustainability of therapeutic gains in symptoms and severity of difficulty in regulating emotions, self-serving cognitive distortions, executive functioning at post intervention and 1 month follow-up in patients with Substance use with antisocial behavior in control and experimental group.

4) To assess the association between difficulty in regulating emotions, self-serving cognitive distortions, executive dysfunction, antisocial behavior and clinical and demographic variables in adults with substance use receiving integrated psychotherapy and psycho-pharmacotherapy with motivational enhancement and pharmacotherapy

Motivation for study

Substance use is one of the most prevalent psychiatric conditions across the globe, with both physical and psychiatric comorbidities amounting to a dual diagnosis, one of the co-occurring conditions is Antisocial behaviours among substance users which is often neglected or remains unaddressed in treatments of all natures whether it be pharmacological or psychological, due to various reasons including the presence of pre-existing therapeutic nihilism, underlying complexities and multi-factorial etiology that makes managing the condition tumultuous, however, if untreated it leads to a revolving door phenomenon in substance users and involves huge financial, psychological and social disadvantages. Hence it is crucial to address the underlying antisocial tendencies while managing substance use disorders.

Hypotheses

1. There will be no significant difference in outcome measures including difficulty in regulating emotions, self-serving cognitive distortions, Executive functioning, and substance use (Craving, motivation, and locus of control) among patient with substance use disorders with antisocial behavior receiving Integrative psychotherapy and those receiving treatment as usual at the post-intervention level
2. There will be no significant difference in outcome measures including difficulty in regulating emotions, self-serving cognitive distortions, Executive functioning, and substance use (Craving, motivation, and locus of control) among patient with substance users with antisocial behavior receiving Integrative psychotherapy between pre intervention and post-intervention level.
3. There will be no significant difference in outcome measures including difficulty in regulating emotions, self-serving cognitive distortions, Executive functioning, and substance use (Craving, motivation, and locus of control) among patient with substance users with antisocial behavior receiving Integrative psychotherapy between post-intervention level and 1 month follow up.

4. There will be no significant association between difficulty in regulating emotions, self-serving cognitive distortions, executive dysfunction, antisocial behaviours, and clinical and demographic variables in adults with substance use disorders.

Research Design and Methodology

Area of the Study: S.S. Raju Centre for Addiction Psychiatry, Central Institute of Psychiatry, Ranchi.

Study Design: Randomized Controlled Trial

Sample size estimation: Priori Sample size calculation was performed using G*Power 3.1.9.2 software for 2 groups with 3 levels of measure, sample size calculations with effect size 0.3 kept as moderate to good, power as 95% and p value as 0.05 level of Significance The total sample size calculated for the current study is 40.

Sample This research will comprise 40 male participants age range between 18-35 years selected through purposive selection. These participants will be randomly assigned to either of the two groups i.e., 20 in the experimental (proposed intervention group) and 20 in the control group (treatment as usual) by block randomization method. These participants will be randomly assigned to two groups using block randomization method (Block size = 4) with each participant in the block being assigned a sequential random number generated using sealed envelope software. The experimental group will receive Integrative psychotherapy and pharmacotherapy whereas the control group will receive Treatment as usual (MET) and Medicine assisted therapy.

Inclusion Criteria

1. Participants diagnosed using ICD 10 DCR [56] with Mental and Behavioural disorders due to use of alcohol dependence syndrome (F10.2), Opioid Dependence syndrome (F11.2) cannabinoids dependence syndrome (F12.2), sedatives or hypnotics, dependence syndrome. (F13.2), volatile solvents, dependence syndrome. (F18.2), multiple drug use and use of other psychoactive substances, dependence syndrome. (F19.2).
2. Participants with an overall PCL-R score of 30 and above.

3. Age range of 18-35 years of age.
4. Male Gender
5. Participants with at least a secondary level of education.
6. Participants who are fluent in Hindi or English language
7. Participants who consent to the research study

Exclusion

1. Participants with a history of traumatic brain injury, intellectual disability or any neurological condition, organic brain disease, and epilepsy.
2. Participants with only Nicotine Dependence.
3. Participants with impairment of hearing, vision, physical or other forms of disability.
4. Participants with major functional mental illnesses (i.e., schizophrenia, schizoaffective disorder, and bipolar disorder)

Tools to be used for Data collection

1) Informed Consent form

Through the Informed Consent, the researcher will seek permission from participants regarding their wish to be part of the study, this will include information regarding the research purpose, process, duration, voluntary participation, and confidentiality of the study, as well as a Certificate of Consent. The document would also outline the potential risks and benefits of the research, as well as the rights and responsibilities of the participants.

2) Socio-Demographic and Clinical Information Data Sheet

The sociodemographic data will be used to collect data relevant to the research including name, age, gender, educational qualifications, religious affiliations, address, rural or urban domicile, family type, diagnosis of patient, duration, onset, course, factors associated with of illness, past history of illness, and family history of illness, history of abstinence.

3) Measuring Executive Dysfunction

(i) Wisconsin Card Sorting Test (Indian Norms taken from NIMHANS Neuro-psychology Battery)

(Heaton et al.[57], Rao et al., [58])

WCST examines concept formation, abstract reasoning and ability to shift cognitive strategies in response to environmental changes. Test consists of 128 cards, in two sets of 64 along with 4 stimulus cards based on 3 attributes of color, number and form.

Scoring classification of errors into perseverative and non-perseverative, level of concept formation ability, difficulty in set shifting etc. based on percentages derived for each category of responding.

Psychometric properties: The NIMHANS Neuropsychology Battery-2004 consists of 21 neuropsychological tests. Internationally accepted neuropsychological tests were chosen and modified to suit our culture if required.

Motor speed was measured by the Finger Tapping test, Mental speed was measured by the Digit Symbol Substitution test, Focused attention was measured by the Color Trails test, Sustained attention was measured by the Digit cancellation test.

Among executive functions, verbal working memory was measured by the verbal n back and visual n back tests, the self-ordered pointing test, category fluency and phonemic fluency, planning by the Tower of London test, concept formation and set shifting by the Wisconsin Card Sorting Test, response inhibition by the Stroop test. Verbal comprehension by the Token test, verbal learning and memory by the Auditory verbal learning test, visual learning and memory by the Rey's Complex Figure test. The battery was administered on 540 normal adults belonging to both genders, aged between 16-65 years, with illiterates, and literates whose educational levels ranged from 1s standard to Ph.D. The education levels were divided into illiterates, school and college educated subjects. Age was divided into 16-30 years, 31-50 years and 51 -65 years. There were 30 subjects at each intersection of gender x age x education. Education significantly influenced performance followed by age. Gender had the least effect. Percentiles were calculated as normative scores for the 81 variables accrued from all the tests.

Test-retest reliability was calculated which showed adequate reliability for most scores. Validity was established by the differences in score profiles among head injured (N=182), brain tumors (N=30), epilepsy (N=102) Parkinsonism (N=20) patients. [58,59]

(ii) Indian Adult Trail-Making Test (Jahan et al.[60])

The Trail making test comprises of four set of visual search and sequencing tasks that assess attention and executive function including set shifting and resistance to distractors in adults from age range 18-55 years.

Psychometric properties Inter scorer reliability ranged from 0.33-0.91 across 4 trails, Test- retest Reliability coefficient was found to be 0.79 and concurrent validity was established with comprehensive trail making test by Reynold, (2002)

Cambridge Neuropsychological Test Automated Battery [CANTAB] *Robbins et al.*[61]

The Cambridge neuropsychological test automated battery (CANTAB, CeNeS Limited, Cambridge, UK), a computerized test system handling reaction measurement by a touch screen. Five subtests will be used.

a) The subtest ***'Motor Screening'*** - subjects to familiarize themselves with the touch screen.

b) Intra-Extra Dimensional Set Shift (IED)

Intra-Extra Dimensional Set Shift is a test of rule acquisition and reversal. It features visual discrimination and attentional set formation maintenance, shifting and flexibility of attention. This test is sensitive to changes in the fronto-striatal areas of the brain and is a computerised analogue of the Wisconsin Card Sorting test.

Task format

Two artificial dimensions are used in the test:

Pink shapes

White lines

In this task, participants must use feedback to work out a rule that determines which stimulus is correct. After six correct responses, the stimuli and/or rule changes.

Initially the task will involve simple stimuli which are made up of just one of the dimensions e.g. two white lines that differ in shape. Later on in the task, compound stimuli are used: white lines overlaid on the pink shapes.

The shifts in rule are initially intra-dimensional (i.e. the pink shapes remain the only relevant dimension) and then later extra-dimensional (i.e. white lines become the relevant dimension).

c) Cambridge Gambling Task (CGT)

The Cambridge Gambling Task has been developed to assess decision making and risk-taking behaviour outside a learning context.

Task format

The participant is presented with a row of ten boxes across the top of the screen: some are red and some are blue. The ratio of red and blue boxes will vary between stages but there will always be one box that contains a yellow token. Participants must use the 'Red' and 'Blue' buttons at the bottom of the screen to choose the box colour in which they think the token is hidden.

In the assessed stages, participants start with 100 points and select a proportion of these points to bet on their decision. A circle in the centre of the screen displays the current bet value, which will either incrementally increase or decrease (depending on

the task variant selected). Participants press this button when it shows the proportion of their score they would like to bet. These points will either be added or taken away to their total score, depending on their decision and where the token is actually hidden

d) **Emotional Bias Task (EBT)** The Emotional Bias Task detects perceptual bias in facial emotion perception.

Task format

Participants view images of faces that are morphed between two emotions of varied intensities. The variants cover continuums from happy to sad, happy to angry or happy to disgusted. Each face is displayed for 150ms, followed by a two-alternative forced choice where they must select one of the two emotions.

e) **Emotion Recognition Task (ERT)** The Emotion Recognition Task measures the ability to identify six basic emotions in facial expressions along a continuum of expression magnitude.

Task format

Computer-morphed images derived from the facial features of real individuals, each showing a specific emotion, are displayed on the screen, one at a time. Each face is displayed for 200ms and then immediately covered up to prevent residual processing of the image. The participant must select which emotion the face displayed from 6 options (sadness, happiness, fear, anger, disgust or surprise).

4)Measurement of Emotional Dysregulation

Difficulties in Emotional Regulation (DERS -18)

- *Victor, S. E., & Klonsky, E. D.* [62]

Gratz and Roemer developed the Difficulties in Emotion Regulation Scale (DERS) to assess six dimensions of emotional dysregulation.[15] The Original DERS contains 36 item regulation and dysregulation. Herein the shorter adaptation of the original DERS-18 containing 18 items will be used developed by Victor, S. E., & Klonsky, E. D. [62] Measures 6 dimensions:

1. Awareness
2. Clarity
3. Goals

4. Impulse
5. Nonacceptance
6. Strategies.

5) Measuring Antisocial Behaviors:

(i) Hare Psychopathy Checklist 2nd ed. *-Hare* [63]

The PCL-R is a 20-item four-factor (interpersonal, affective, lifestyle & antisocial) assessment of psychopathy for use in research, clinical, and forensic settings. The PCL-R uses a semi-structured interview to measure inferred personality traits and behaviors related to the conception of psychopathy. Raters score each item of the PCL-R on a 3-point ordinal scale (0, 1, or 2) to the extent they judge it to be applicable to a given individual. Total scores are dimensional, varying from 0 to 40, with a score of 30 often used as a research threshold for psychopathy.

Psychometric Properties: strong evidence for the reliability of the PCL-R items and total and factor scores. Internal consistency was generally high (alpha, mean interitem correlation), as was interrater reliability for single ratings (intraclass correlation coefficient [ICC1]) and for the average of two ratings (ICC2). For the pooled standard assessment datasets, ICC1 and ICC2 values for the total score were .87 and .93, respectively. For the pooled file review datasets, alpha was found to be .87

(ii) Cognitive Distortions - How I Think Questionnaire

-Barriga, Gibbs, Potter & Liau, [64]

The How I Think questionnaire is a 54-item self-report questionnaire designed to measure self-serving cognitive distortions.

Participants respond on a six-point Likert scale (from “agree strongly” to “disagree strongly”), with higher scores reflecting higher levels of cognitive distortions. The questionnaire contains 39 items stating attitudes or beliefs, eight items controlling for anomalous responses, and seven items acting as positive fillers. The 39 items stating attitudes or beliefs are *divided into two dimensions with four subscales each*:

one measuring self-serving cognitive distortions (the subscales Self-Centered, Blaming Others, Minimizing/Mislabeling, and Assuming the Worst and one measuring antisocial behavior (the subscales Opposition-Defiance, Physical Aggression, Lying, and Stealing).

For example, the item “If you don’t push people around, you will always get picked on” represents the cognitive distortion Assuming the Worst and the antisocial dimension Physical Aggression.

The scales measuring antisocial behavior refer to the four categories of antisocial behavior in the conduct disorder and oppositional-defiant disorder syndromes in the Diagnostic and Statistical Manual of Mental Disorders DSM-IV (American Psychiatric Association, [65]).

The antisocial behavior scales are categorized into overt versus covert antisocial behavior, where overt antisocial behavior implies a direct confrontation with the victim.

Psychometric Properties: English-language version, the HIT demonstrated strong test–retest reliability, with a statistically significant correlation of 0.91 between the two administrations. Comparable psychometric properties were obtained with different samples in the course of validating the instrument (Barriga et al., 2001). Various studies have been conducted on structural, discriminant, convergent and divergent validity of the instrument, indicating HIT-Q as a valid instrument.[64,66,67]

(ii) Measuring Addictions-

(i) Addiction Severity Index (ASI) - McCLellan et al. [68]

The Addiction Severity Index (ASI) is an assessment tool used to assess an adult's condition in 7 key problem areas that are typically affected by substance abuse.

The areas assessed include:

1. Medical status.
2. Employment and support.
3. Drug use.
4. Alcohol use.
5. Legal status.
6. Family/social status.
7. Psychiatric status.
8. *Scoring*

Each question typically has a score attached to it of 1 or 0.5 For example, if the patient answers yes, they may score 1; if they answer no, they may score 0.5 For some items, the scoring may be reversed. At the end of the test, the trained clinician tallies the scores and places them in the chart under the appropriate categories. The higher the score, the higher the need for treatment.

ASI Severity Ratings

The ASI substance abuse assessment uses the composite score to assign a severity rating. The ratings are based on a scale of 0 to 9 as follows:

0–1: No imminent problem, treatment not indicated. 2–

3: Slight problem; treatment may not be necessary.

4–5: Moderate problem, a treatment plan should be considered.

6–7: Considerable difficulty, begin a treatment plan.

8–9: Extreme problems, treatment is vital.

(ii) The Readiness to Change Questionnaire (RTCQ)

- *Rollnick et al.*[69]

The Readiness to Change Questionnaire (RTCQ) by Rollnick et al.[69] was designed for clients with alcohol problems who might not be aware of having an alcohol problem. Items were initially chosen to represent a specific stage of change according to the Prochaska and DiClemente model [70]. The Maintenance stage is not included, because some individuals endorsed both precontemplation and Maintenance items. Hence, the RTCQ aims to assess three of the stages of change — pre-contemplation, Contemplation, and Action.

Psychometric Properties: The test has been shown to have a three-factor structure corresponding to the three stages of change. However, the three factors are correlated, which indicates that the test measures a common dimension besides reflecting the three stages of change. In the original study (Rollnick et al.[69]) the internal consistency reliability of the three scales was found to be satisfactory, Internal consistency Cronbach's alpha coefficient was calculated for each of the 4-item scales representing the three stages of change; precontemplation = 0.73; contemplation = 0.80; action = 0.85. This indicates that the item scores can reasonably be regarded as constituting a

scale in each case. Test-retest reliability Correlations between the two occasions of administration for the three scale scores were as follows: precontemplation = 0.82; contemplation = 0.86; action = 0.78. This represents satisfactory reliability for three 4-item scales.

(iii) Rotter's Internal–External Locus of Control Scale (Ri-eLOC)

-Rotter J. [71]

Rotter first defined locus of control as a personality attribute and generalized enduring expectancy or belief about the nature of outcomes in life. Rotter's internal–external locus of control scale consists of 6 fillers and 23 forced-choice pairs, with one internally oriented statement and another externally oriented statement. The scale was developed to measure the extent that a person believes that he/she can control events that affect them. It also defines the person's generalized expectancy of reinforcement controls (internal versus external control).

Scoring: The score is calculated based on the respondent's selection for external choices. The total score ranges from 0 to 23, with a higher score indicating higher external LoC. Higher scores are indicative of externality and lower scores are indicative of internality.

Psychometric Properties: Item analysis and factor analysis show reasonably high internal consistency for an additive scale. Internal consistency Kuder– Richardson coefficient was 0.69 in the original scale. Test-retest reliability is satisfactory, and the scale correlates satisfactorily with other methods of assessing the same variable such as questionnaire, Likert scale, interview assessments, and ratings from a story-completion technique. Discriminant validity is indicated by the low relationships with such variables as intelligence, social desirability, and political liberalness. Differences in means of selected populations is generally a weak criterion of validity. Nevertheless, differences obtained for different types of populations are generally consistent with expectancies.

(iv) Brief Substance Craving Scale (BSCS)

- Somoza et al.[72]

The BSCS is a 16-item, self-report instrument that assesses craving for cocaine and other substances of abuse over a 24-hour period. The intensity and frequency of craving are recorded on a five-point Likert scale. The Craving Subcommittee of the

NIDA Medications Development Research Units (MDRU) designed this instrument as an expansion of the Cincinnati Craving Scale. Reliability data for this instrument has been collected at the Cincinnati MDRU. The BSCS takes approximately 10 minutes; it can be used at intake, during treatment, and at follow-up.

Intervention Module

Number of Therapeutic Sessions: 18

Duration of session: 60 mins

Frequency: 3 sessions per week

Assessments: Baseline (Pre-intervention), Post-intervention, and at 1-month follow-up

Therapeutic Package for Proposed Intervention

Phase I (Session 1-4)

(i) Psychoeducation:

Psychoeducation is a brief process of therapy focused on the communication of varied aspects of disorder and/or treatment-related information. Here the techniques of Psychoeducation with SUD patients have been taken from Magil and colleagues' [73] work on *"The principles and practices of psychoeducation with alcohol or other drug use disorders: A review and brief guide"*

(ii) Motivational Enhancement Therapy

Motivational enhancement therapy is characterized as a client-centred intervention that helps in the modification of behavior by helping subjects identify and resolving the ambivalence toward a change. MET has been previously found to be effective with Male incarcerated alcohol abusers[74] Additionally, it has been found to enhance self efficacy among substance users[75]. MET would be conducted based on *"Motivational Enhancement Therapy Manual: A Clinical Research Guide for Therapists Treating Individuals With Alcohol Abuse and Dependence"*[76]

Phase II (Session 5-12)

(iii) Enhancing Frustration and Distress Tolerance

Brown et al.[77] define distress tolerance as "behavioral persistence in the face of emotional and/or physical distress". Frustration intolerance refers to the inability to tolerate reality when it diverges from our idealized expectations, and demands, rather than preferences, for comfortable and ideal life conditions.[78]

Skills enhancement adapted from *Ellis A & Dryden W[79] - The practice of rational-emotive therapy (RET), Frustration Intolerance: Therapy Issues and Strategies (Harrington[80]) and DBT: Skills training manual (Linehan[81])*

(iv) Emotion Regulation skills

Gross and John's[82] detailed theory of emotional regulation proposes five regulation strategies that occur sequentially during the process of emotion generation. These strategies are (1) selection of situations, (2) modification of situations, (3) attention deployment, (4) cognitive change (reappraisal), and (5) response modulation. According to Gross and John[83] antecedent-focused regulation occurs during the genesis of an emotion and encompasses selection and modification of situations, attention deployment, and cognitive change. Response modulation occurs after an emotion is experienced. Gross and John argued that antecedent-focused emotional regulation is more effective than response-focused regulation in that it alters the trajectory of an emotion early in the emotion generation process.

Emotion Regulation skills have been taken from *Handbook of Emotion Regulation by Gross[84] and DBT: Skills training manual (Linehan[81])*

(v) Attachment & Mentalization based treatment

The developmental experiences and trajectories of individuals with ASPD, with their numerous disruptions and threats to attachment processes, support the relevance of using the theoretical framework of attachment theory to further understand these people. This theoretical position then suggests that adults with a diagnosis of ASPD would have disordered attachments.[85]

According to Bateman & Fonagy,[86] Mentalizing is an essential human capacity underpinning interpersonal relation that develops in the first few years of life and is

defined as 'the process by which we interpret the actions of ourselves and others in terms of underlying intentional states such as personal desires, needs, feelings, beliefs and reasons'

Attachment and Mentalization perspective is taken from *Psychotherapy for borderline personality disorder: Mentalization-based treatment*.[86]

(vi) The Internal Family System (IFS)

Internal family systems[87] (IFS) holds the mind to be multiple – that is it contains subpersonalities that in IFS are called parts. Parts are considered to contain valuable qualities and abilities but are forced from their naturally valuable states by traumas or attachment injuries. Some are forced into protective roles and others are locked away inside the mind such that people no longer have access to them. Richard Schwartz, the originator drew from family systems theory to understand the way this inner system of parts that his clients were describing operated. In IFS, these hurt and often childlike parts of us are called exiles, as they go into hiding or are locked away internally. To avoid vulnerability and past pain — to keep our exiles hidden — and to ensure internal functioning, we naturally develop parts of ourselves that are responsible, competent, future-oriented, risk-avoidant and adept at accomplishing everyday tasks. These parts of the personality are known as managers and they are often empowered in the modern world. Examples include: The Perfectionist, Achiever, Analyzer, Caretaker, Critic, Worry Wart, and Shamer. When managers fail to protect our vulnerable and hidden parts — which is inevitable no matter how good they are at controlling the inner and outer worlds — we have a second line of defense: firefighters. Less socially acceptable at their extremes, these parts of our personality spring into protective action to ensure we're not overwhelmed by the exiles' emerging pain, memories or derailing beliefs. Since their goal is to get us out of real or imagined danger as quickly as possible, they are often frantic, reactive, impulsive, destructive and courageous parts of us. They may use classic "fight, flight, fawn, or. Examples of firefighter behaviors include: substance abuse, overeating, procrastinating, rage, gambling, compulsive shopping, rebellion, dissociation, self-harm and compulsive sexual acts.

IFS Module for addictions have been taken from *Internal Family Systems Therapy (IFS) for Addictions Trauma-Informed, Compassion-Based Interventions for Substance Use, Eating, Gambling and More by Cece Sykes et al.*[88]

(vii) Drama Triangle

Karpman[89] developed the drama triangle, a theory of human interaction to explain and understand destructive interpersonal relationship patterns, based on the interplay of three psychological characters: Persecutor (villain), Rescuer (hero), and Victim (damsel in distress). The "drama" occurs from the emotional repressions of assuming or switching through these roles. As part of the drama, individuals can unintentionally switch from one position to another and thereby compromise the possibility of developing and maintaining healthy relationships. Furthermore, Karpman[89] postulated that the drama cycle is sustained when players continue to switch roles or get additional players involved in the conflict. Players involved in the drama triangle often act upon their own egocentric needs rather than exhibiting genuine interest in the feelings of others[90]. These inauthentic interpersonal exchanges serve the purpose of avoiding authentic intimacy. Thus, to break the cycle, people need to become self-aware of their position in the drama triangle in interpersonal interactions.

Drama Triangle techniques adapted from "*The Drama Triangle. in The Skilled Facilitator Fieldbook: Tips, tools, and tested methods for consultants, facilitators, managers, trainers, and coaches by Schwarz et al.*[90]

(viii) Cognitive therapy

Antisocial personality disorder (ASPD) has a distinct cognitive profile according to cognitive theory of personality disorders. Antisocial individuals' view of the world is personal rather than interpersonal. They cannot accept another's point of view over their own. As such, they cannot take on the role of another. Their actions are not based on choices in a social sense because of this cognitive limitation. Cognitive theory of personality disorders conceptualizes personality disorder including the ASPD, according to their basic beliefs or schemas. The content of beliefs can vary in different personality disorders. Antisocial patients view themselves as loners, autonomous, and strong. Some of them see themselves as having been abused and mistreated by society and therefore justify victimizing others because they believe that they have been victimized. Their view about other people is very negative; they see others as exploitative and thus deserving of being exploited in retaliation.

Components of Cognitive Restructuring has been taken from *Cognitive-Behavioral theory and treatment of antisocial personality disorder by Sargin et al.*[91]

Phase III (Session13-18)

(ix) Impulsive Lifestyle Counselling (ILC)

One way to address personality disorder, including ASPD, is through psychoeducation, i.e., by teaching patients about their condition and how to best manage it. If done sensitively, providing psychoeducation may help raise the patient's awareness of his/her behavioral difficulties, and how they impact him/herself and others (Banerjee et al.[92]). This awareness may in turn help patients in making informed decisions about seeking and receiving help for their problems so that they are less inclined to drop out of treatment, including substance abuse treatment, due to frustrations or impulsive actions. The Impulsive Lifestyle Counseling (ILC) program was adapted from the Lifestyle Issues program (Walters[93]) which is a group-based approach that views crime as a lifestyle and involves framing the problem as a question of lifestyle, rather than through concepts that lead to negative self-labeling, such as offender or patient with personality disorder.[93] The psychoeducational approach is ideal for people with ASPD, as it allows clinicians to discuss stigmatized behaviors and beliefs with patients in a non-judgmental atmosphere that nevertheless explicitly addresses the behaviors and their consequences.

ILC sessions are based on *"The Impulsive Lifestyle Counseling Program for Antisocial Behavior in Outpatient Substance Abuse Treatment"* by Thylstrup & Hesse[94]

(x) Social Problem solving - 'Stop & Think!'

Good problem-solving skills consist of the ability to recognize a problem when it arises, define the problem clearly and accurately, produce a diversity of possible solutions, anticipate outcomes, formulate an effective action plan that has stepwise stages, and carry out the action plan effectively. Social problem-solving is the application of these skills in everyday life. Investigations of offender populations have shown poor social problem-solving skills in incarcerated young offenders, with the poorest skills associated with highest distress (Biggam and Power[95])

'Stop & Think!' is based on the premise that personality disorder is partly a deficit in thinking skills and interpersonal functioning. Based on the work of D'Zurilla and colleagues[96] 'Stop & Think!' aims to improve problem identification, problem

specification, goal setting and creativity in generating potential solutions to problems. It is particularly aimed at improving option analysis, enhancing accurate anticipation of the consequences of actions by correcting dysfunctional thinking styles and tackling anti-social attitudes. Several options may be chosen from those generated, and these should be listed in a logical means–end sequence. The ultimate aim of 'Stop & Think!' is the formulation of an action plan, consisting of specific, actionable tasks, to help people move on from expressing concern to taking action to solve problems.

PST steps are adapted from *"Problem-solving therapy - Handbook of cognitive-behavioral therapies"* by D'Zurilla et al.[97]

(xi) Relapse Prevention

Relapse Prevention Therapy (RPT) is a cognitive-behavioral approach to the treatment of addictive behaviors that specifically addresses the nature of the relapse process and suggest coping strategies useful in maintaining change (Parks, Marlatt, & Anderson[98]) It is based on the idea that addictive behaviors are acquired, over-learned habits with biological, psychological, and social determinants and consequences. From this perspective, relapse is a natural part of the process of change and does not represent failure. The process of relapse, from the experience of high-risk situations to an initial lapse, is then presented to clients. Positive outcome expectancies regarding the effects of substance, degree of self efficacy and the acquisition of effective coping skills all play a role in this process. Additionally, when a lapse occurs there is often an abstinence violation effect, composed of guilty feelings and a sense of inherent powerlessness, which can interact with these other factors and trigger a relapse. A thorough analysis of a relapse experience helps the client gain a greater understanding of the relapse process. RPT strategies are designed to address the immediate precursors of relapse, assessment of high-risk situations and coping skills, training of new coping skills, challenging positive outcome expectancies associated with substance use, and coping with lapses and the abstinence violation effect. Alongside global RPT strategies are focused on broader issues of life-style balance and awareness of covert determinants of relapse, including an assessment and emphasis on life-style balance, coping with the desire for indulgence through substitute indulgences, coping with cravings.

RPT module is taken from *"Relapse prevention therapy: A cognitive-behavioral approach"* by Parks & Marlatt[98]

(xii) Positive Psychology Interventions

Positive Psychological Interventions (PPIs) are activities and behavioral interventions that target positive variables to promote adaptive functioning (e.g., reducing depression or promoting psychological well-being). PPIs may make excellent contributions to treating substance use, substance use disorders (SUDs), and substance use problems because the interventions can partially shift the notable negative treatment focus (e.g., avoiding the consequences of using) onto positive aspects (e.g., pursuing an ideal future). Bolier et al.[99] organized PPIs, which contain a broad range of interventions, into well-supported, major categories based on the PPIs' positive variable. These domains are the following: (1) expressing gratitude by oneself or with others; (2) learning about character strengths and using them in a novel manner; (3) pursuing short and long-term goals; (4) practicing and enhancing an optimistic worldview; (5) performing novel acts of kindness; and (6) savoring moments or memories.

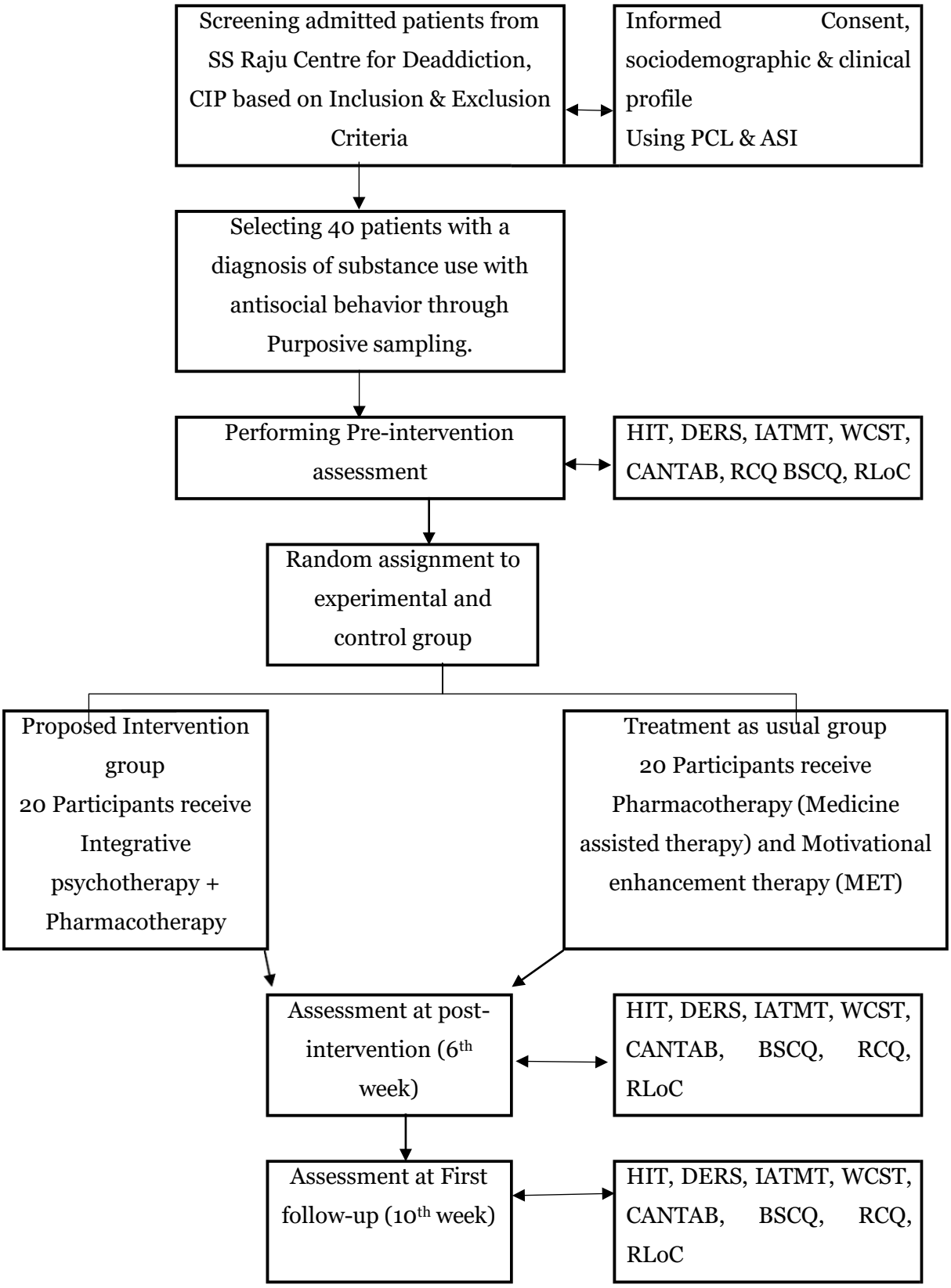
PPIs adapted from *"Integrating Positive Psychology into Substance Use Treatments."* By Bryant[100]

Phase/session	**Therapeutic Intervention Modality**	**Target of Intervention & Techniques**
Initial Phase I (Session 1-4)	1. Psycho-education about illness and intervention 2. Initiating the first phase of Motivation Enhancement Therapy	▸ Communicating the diagnosis & providing a rationale for treatment ▸ Establishing Therapeutic Alliance through containment and creating a safe setting ▸ Psychoeducation from a bio-psycho-social perspective, Stages of change ▸ Building motivation to change through Motivational Interviewing (Reflective listening, eliciting self-motivating statements, Decisional matrix)
Phase II (session 5-12)	1. Second Phase of Motivation Enhancement therapy 2. Frustration Tolerance skills & Emotion regulation	▸ Strengthening Commitment to Change (Recognizing Change Readiness, change plan worksheet, Communicating Free Choice) ▸ ABC analysis of aggressive outbursts, ▸ Teaching Strategies for Emotion Regulation (Labelling and expression, regulation, Antecedent-

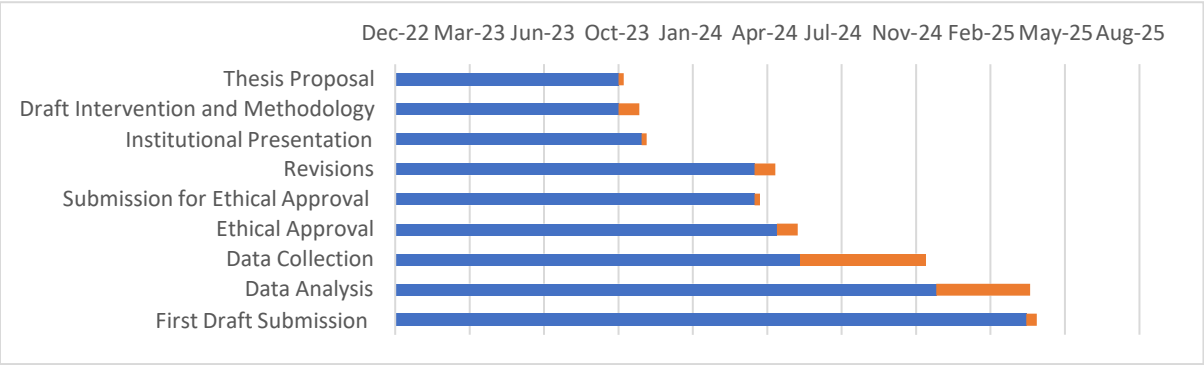
	3. Mentalization and attachment Framework 4. Cognitive therapy 5. Internal Family System (IFS) Framework	focused Strategies and Response modulation strategies) ▸ Cognitive restructuring to modify errors in thinking ▸ Learning perspective-taking, and understanding boundaries and their violation through role-playing. ▸ Partswork & Karpman's Drama Triangle (interplay of three psychological characters; Persecutor, Rescuer and Victim)
Terminal Phase III (13-18)	1. Impulsive lifestyle counselling (ILC) 2. Social Problem solving 3. Relapse Prevention 4. Positive Psychology Interventions 5. Family Meeting	▸ Addressing Problems in daily life due to impulsivity, in the personal and interpersonal domain (self-indulgence, breaking rules, interpersonal intrusiveness, and irresponsibility) ▸ Five Stages of Problem-Solving (Identifying and defining the specific problem, generating various solutions to the problem, Evaluating each solution, Implementing the chosen solution, and Evaluating success) ▸ Identifying and coping with high-risk situations, enhancing self-efficacy, lapse management, and positive addictions. ▸ Inculcating positive life skills including gratitude and forgiveness ▸ Skill review, discharge counseling

**additional sessions maybe given as per requirement*

PROCEDURE


Screening admitted patients from SS Raju Centre for Deaddiction, CIP based on Inclusion & Exclusion Criteria
Informed Consent, sociodemographic & clinical profile Using PCL & ASI
Selecting 40 patients with a diagnosis of substance use with antisocial behavior through Purposive sampling.
Performing Pre-intervention assessment
HIT, DERS, IATMT, WCST, CANTAB, RCQ BSCQ, RLoC
Random assignment to experimental and control group
Proposed Intervention group 20 Participants receive Integrative psychotherapy + Pharmacotherapy
Treatment as usual group 20 Participants receive Pharmacotherapy (Medicine assisted therapy) and Motivational enhancement therapy (MET)
Assessment at post-intervention (6th week)
HIT, DERS, IATMT, WCST, CANTAB, BSCQ, RCQ, RLoC
Assessment at First follow-up (10th week)
HIT, DERS, IATMT, WCST, CANTAB, BSCQ, RCQ, RLoC

GANTT CHART



Interim Statistical Analysis

The statistical procedure will be completed by using Statistical Package for Social Sciences (SPSS) version 29.0. Both Descriptive (Mean, SD, Frequency, and Percentage) and inferential statistics (ANOVA, t Test, Pearson Product Moment) will be used as deemed appropriate after checking parameters of normality.

Relevance and Significance of the Study

Extant literature suggests that strong primary cognitive distortions can seriously hinder the process of rehabilitation as well as readiness to seek treatment in persons with antisocial attitudes because of their belief that they already know it all, and therefore see no need for personal change [101], thus a reduction in self-serving cognitive distortions which in turn affect antisocial attitudes and behaviors can improve our understanding, assessment and, possibly, treatment of substance users.

1. Integrative Psychological interventions will thus allow the person to develop a better understanding of themselves, others, and their difficulties, and from this they will develop new skills and take perspective to better manage themselves and life difficulties, be in a position to better regulate emotions, leading to a decrease in impulsivity, anger, self-harm, rule-breaking, substance abuse, and negative behaviors.
2. Antisocial behavior as well as ASPD is closely associated with criminal offending and any intervention that seeks to improve the outcome of Antisociality is also likely to impact upon this offending.
3. there is currently a dearth of evidence on how best to treat people diagnosed with AsPD, and to date, the few reviews that have been carried out have been

inconclusive and hampered by poor methodology (The Cochrane Collaboration Review, [102] NICE Guidelines, [103])

4. Antisocial attitudes significantly impact behavioural outcomes such as misbehavior inside institutions [104] and with lower levels of treatment engagement, poorer treatment motivation, and lower levels of psychosocial functioning among substance-using offenders.[105]

Hence Integrative psychotherapy with components of motivational interviewing, psychoeducation, cognitive restructuring, emotion regulation, and enhancing social problem-solving and decision-making ability will improve treatment outcomes of substance users in inpatient treatment and on follow-up reducing psycho-social as well as treatment costs involved with these conditions.

Relevance to society

Antisocial behavior is associated with significant costs [106], arising from emotional and physical damage to people, property damage, use of police time and involvement of the criminal justice system and prison services. Related costs also include increased use of healthcare facilities, lost employment opportunities, family disruption, gambling, and problems related to alcohol and substance misuse [107,108], hence reduction in antisocial attitudes will not only benefit the individual but also his interpersonal dynamics and the society as a whole.

Contribution to the existing knowledge

Intending to understand the neuropsychological deficits underlying antisociality, previous researchers have examined the link between frontal lobe function and antisocial behavior, an inverse relationship between performance on executive function tasks and antisocial behavior is well documented, similarly executive dysfunction in substance use is well-researched upon, but there seems to be lack in terms of understanding the associations and mediating role of antisocial attitudes and neuropsychological deficits in the context of substance use, as treatment outcomes of substance use behaviors might be mediated by antisocial attitudes and executive dysfunction including poor decision-making ability, this will add on the existing knowledge in understanding the complex interplay of these variables.

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APPENDIX-1

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

INFORMED CONSENT FORM

"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among Substance Use Disorders with Antisocial Behavior: A randomized Controlled Study"

Investigators' Details:

1. **Dr. S.K. Munda, MD., DPM,** Professor of Psychiatry, Central Institute of Psychiatry, Kanke, Ranchi-834006
2. **Dr. Masroor Jahan, M Phil, Ph.D.,** Additional Professor of Clinical Psychology, Ranchi Institute of Neuro Psychiatry and Allied Sciences (RINPAS), Kanke, Ranchi-834006
3. **Jasar Khan,** M.Phil., CIP, Kanke, Ranchi-834006

Participant Details:

1. Name:
2. Age/Date of Birth:
3. Name of the Informant/Guardian/Caregiver:
4. Address:

Probable Finding Agency:

Patient/Guardian/Caregiver Consent Form

Part I: Information Sheet for Patient and/or Guardians/Caregivers

1. Purpose of Study: You are requested to participate in the above-mentioned study. You can read and understand this information before consenting to the study and can read this information even after that. Ensure that you understand the information provided to you.
2. We are doing this Thesis Research work to study the Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, and Executive Dysfunction among Substance Use Disorders with Antisocial Behavior
3. Process of Study: In this study, data will be collected by proper and detailed evaluation of patients admitted to the hospital as per the inclusion and exclusion criteria mentioned, after assignment to either a control or experimental group, pharmacological and psychotherapeutic intervention would be provided, further statistical analysis would be performed to test the hypotheses.
4. Risk from the Study: Nil
5. Benefits from the Study: In this study, we aim to see if Antisocial behavior, neuropsychological deficits, and emotional dysregulation have some correlation or

mediating role in substance-taking behaviors, intervention for these may reduce the substance-taking behaviors.

6. Complications: Nil
7. Compensation: Nil
8. Confidentiality: Your participation in this study will be kept confidential. No data/part of data would be published with your name in it. By signing this consent form you authorize the investigative agency and Institute Ethics Committee to share the records related to you.
9. Rights of the Participants: For receiving treatment at CIP, Ranchi in the future, your family and you have the right to withdraw your consent from the study during any part of the study without any reason.
10. Options for Participation in the Study: You can continue with the usual treatment that you have been receiving from CIP, Ranchi.

You can ask for more/further information during and/or after the completion of the study.

Testimony of the Investigator:

I, **Jasar Khan**, Investigator have explained to the patient/caregiver in the language in which they are conversant. I have explained the procedure, benefits, and harm of the study to them.

Signature of the Investigator:	Signature of the Witness:
Name of the Investigator:	Name of the Witness
Date:	Date:
(Signature/LTI of the guardian)	Name:
Date:	Place:

भारत सरकार
केन्द्रीय मनोचिकित्सा
संस्थान राँची – 834006

सूचित सहमति पत्र

परियोजना का शीर्क : **"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among Substance Use Disorders with Antisocial Behavior : A Randomized Controlled Study"**

जांचिकता

1. **Dr. S.K. Munda, MD., DPM,** Professor of Psychiatry, Central Institute of Psychiatry, Kanke, Ranchi-834006
2. **Dr. Masroor Jahan, M Phil, Ph.D.,** Additional Professor of Clinical Psychology, Ranchi Institute of Neuro Psychiatry and Allied Sciences (RINPAS), Kanke, Ranchi-834006
3. **Jasar Khan,** M.Phil., CIP, Kanke, Ranchi-834006

नाम: उम्र/जन्म तिथि:

अभिभावक का नाम: पिा:

संभावित तिथि एजेंसी:

िोगी / अभिभावक / अभिभावक सहमति

भाग १: सूचना पत्र रोचगयों / अभभावक के भिए

1. अध्ययन का उद्देश्य:आपसे उपयुक्त अनसंधान अध्ययन मेंं भाग लेने का अनुरोध ककया जा रहा है नामांकन से

पहले, पढ़ सकि हैं औि तनम्न जानकाि़ी को समझि हैं, हि समय आपको ऐसा किने की जरूित है!

"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among Substance Use Disorders with Antisocial Behavior : A Randomized Controlled Study"

2. अध्ययन प्रकियाएं: इस अध्ययन के दौिान ओपीडी या अस्पिाल में िोगी िोथगयों में, ववभिन्न पैमाने के माध्यम से ववस्तृत यांकन औि मानकीकृत यांकन के बाद डेटा को इकट्ठा ककया जाएगा औि सांख्ययकीय रूप से मूल्यांकन

ककया जाएगा।

3. अध्ययन का जोखिम: शून्य

4. अध्ययन के िाभ: इस अध्ययन से हम िोथगयों मेंं मनोवैज्ञातनक औि मानभसक लक्षण का अध्ययन किेंगे, जो भिक्षा संगि फामाषकोथेिेपी औि थेिेपी औि बेहति प्रबंधन मेंं औि मदद किेंगे।

5. जटिितायें: शून्य

6. न सान भरपाई: शून्य

7. गोपनीयता: आपकी अध्ययन की भागीदाि़ी का रिकॉडष गोपनीय िखा जाएगा। डेटा का कोई िी प्रकाशन आपके नाम से नहीं ककया जाएगा। सहमति फॉमष पि हस्ताक्षि किके , आप तनयामक प्राथिकिणोंं औि संस्थागति नैतिक सभमति को अपने अध्ययन से संबंथिति चिककत्सा रिकॉडष साझा किने का अथिकाि देते हैं।

8. प्रततभाचगयों के अचधकार: आपको सी०आई०पी० मेंं ववषय के उपिाि से गजिने के भलए आपके या आपके परिवाि के अथिकाियोंं के ककसी िी पूवाषग्रह के बबना अध्ययन के दौिान ककसी िी समय अध्ययन से बाहि तनकलने का अथिकाि है।

9. अध्ययन मेंं भागीदारी के ववकल्प: आप अस्पिाल से सामान्य रूप से इलाज जाि़ी िख सकते हैं। अध्ययन केदौिान या उसके बाद ककसी िी समय, आप अध्ययन के बाि़े मेंं औि जानकाि़ी प्राप्ति कि सकते हैं.

जा ंि कता का बयान:

मै,ं जा ँि कि, **Jasar Khan** ने मा ि ा-वपिा / अभ ि ावक को उसी ि ार् ा मेंं समझाया है, ख़ज़से वह समझि

है। मने अध्ययन की प्रकिया, लाि औि हातन को समझा ददया है ।

जा ंि किष का हस् ि ाक्षि: साक्षी का हस् ि ाक्षि:

जा ंि किष का नाम: साक्षी का नाम:

तिथि: तिथि:

APPENDIX-2
GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

Appendix B: Socio-Demographic and Clinical Data Sheet
Socio-Demographic and Clinical Data Sheet

Socio-Demographic and Clinical Data Sheet

Socio-Demographic Sheet								
Name								
Age (in Years)								
Educational Qualification	*Primary*		*Senior secondary*			*Graduation and above*		
Number of years of education								
Marital status	*Married*		*Unmarried*		*Separated/Divorced*	*Widow/widower*		
Religion	*Hindu*		*Muslim*		*Christian*	*Others*		
Occupation	*Unemployed*				*Employed* _____			
Monthly Family Income								
Socio Economic Status	*Lower SES*			*Middle SES*			*Upper SES*		
Type of Family	*Nuclear*			*Joint*			*Extended*		
Domicile	*Rural*			*Urban*			*Semi Urban*		

Clinical Data Sheet							
Case Record No.				***UHID:***			
Diagnosis According to ICD10 (DCR)							
Category of substance	***Alcohol***	***Cannabis***	***Opioids***	***Stimulants***	***Volatile***	***Tobacco***	***Inhalants***
Type of substance use	***Medically prescribed***		***Illicit***		***Legal***		
Pattern of substance use							
Age at which first used							
Setting of use	***Alone***		***With peers***		***With family members***		
Route of Administration	***Oral***		***Intranasal***		***Transdermal***		***IDU***
Comorbid Medical illness							
Precipitating Factor (if any)							
Total Duration of Substance use							
Monthly Expenditure							
Total Duration of illness (in months)							
History of abstinence							
Comorbid Psychiatric illness Current/lifetime							
No. of previous admissions (Detoxifications)							
Department of Treatment	***Outpatient*** ☐			***Inpatient*** ☐			
Treatment History	***Treatment Naive***	***Pharmacotherapy***	***Psychotherapy***	***Both***			
Family History of psychiatric illness	***No*** ☐	***Yes***	***First degree***				
			Second degree				
Consequences of SUD	***Legal***	***Medical***	***Inter-personal***	***Financial***			
Past Criminal Record/ ongoing legal cases	***No***		***Yes:***				

APPENDIX-3

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

W C S T

CATEGORY SEQUENCE: C F N C F N

___ 1. C F N O	___ 33. C F N O	___ 1. C F N O	___ 33. C F N O
___ 2. C F N O	___ 34. C F N O	___ 2. C F N O	___ 34. C F N O
___ 3. C F N O	___ 35. C F N O	___ 3. C F N O	___ 35. C F N O
___ 4. C F N O	___ 36. C F N O	___ 4. C F N O	___ 36. C F N O
___ 5. C F N O	___ 37. C F N O	___ 5. C F N O	___ 37. C F N O
___ 6. C F N O	___ 38. C F N O	___ 6. C F N O	___ 38. C F N O
___ 7. C F N O	___ 39. C F N O	___ 7. C F N O	___ 39. C F N O
___ 8. C F N O	___ 40. C F N O	___ 8. C F N O	___ 40. C F N O
___ 9. C F N O	___ 41. C F N O	___ 9. C F N O	___ 41. C F N O
___ 10. C F N O	___ 42. C F N O	___ 10. C F N O	___ 42. C F N O
___ 11. C F N O	___ 43. C F N O	___ 11. C F N O	___ 43. C F N O
___ 12. C F N O	___ 44. C F N O	___ 12. C F N O	___ 44. C F N O
___ 13. C F N O	___ 45. C F N O	___ 13. C F N O	___ 45. C F N O
___ 14. C F N O	___ 46. C F N O	___ 14. C F N O	___ 46. C F N O
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___ 30. C F N O	___ 62. C F N O	___ 30. C F N O	___ 62. C F N O
___ 31. C F N O	___ 63. C F N O	___ 31. C F N O	___ 63. C F N O
___ 32. C F N O	___ 64. C F N O	___ 32. C F N O	___ 64. C F N O

SCORING AREA

	Raw score	Standard score	*T* score	Percentile score
Number of Trials Administered				
Total Number Correct				
Total Number of Errors				
Percent Errors				
Perseverative Responses				
Percent Perseverative Responses				
Perseverative Errors				
Percent Perseverative Errors				
Nonperseverative Errors				
Percent Nonperseverative Errors				
Conceptual Level Responses				
Percent Conceptual Level Responses				

	Raw score	Percentile range
Number of Categories Completed		
Trials to Complete First Category		
Failure to Maintain Set		
Learning to Learn		

Normative table _____

Learning to Learn Score Worksheet				
Category number	**Number of trials**	**Errors**	**Percent errors**	**Percent errors difference score**
1				
2				
3				
4				
5				
6				
			Average difference	

APPENDIX-4

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

IATMT

Indian Adult Trail Making Test

Record Form

Name:

Age: **Gender:** **Education:**

Occupation:

Date of Assessment: **Name of Examiner:**

Summary of Performance

Trail	Total Time (in Seconds)	Description (according to norms
Trail1	----------	----------
Trail2	----------	----------
Trail3	----------	----------
Trail4	----------	----------
Trail	**No. of Errors**	**Description (according to norms)**
Trail1	----------	----------
Trail2	----------	----------
Trail3	----------	----------
Trail4	----------	----------

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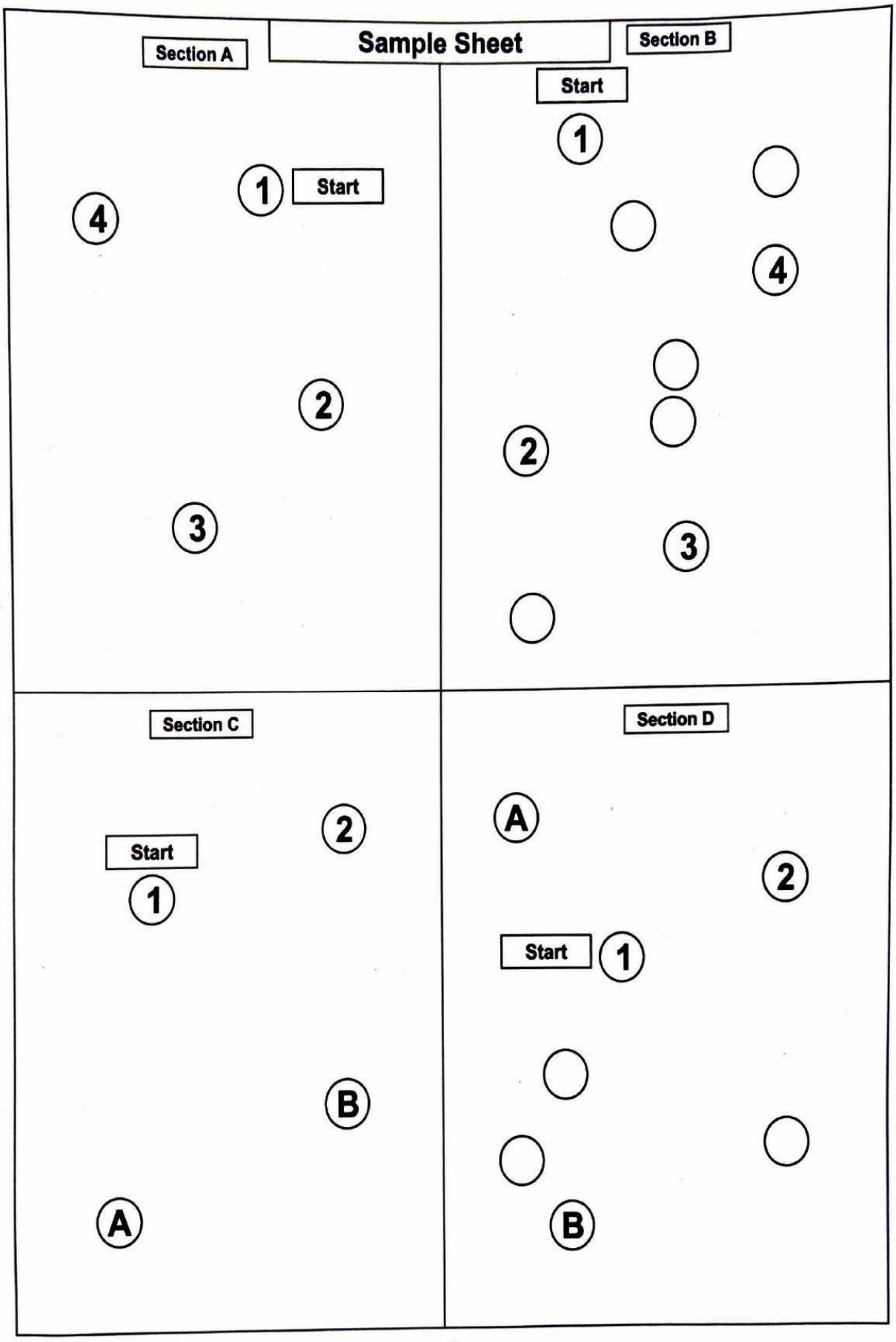
PSYCHO MATRIX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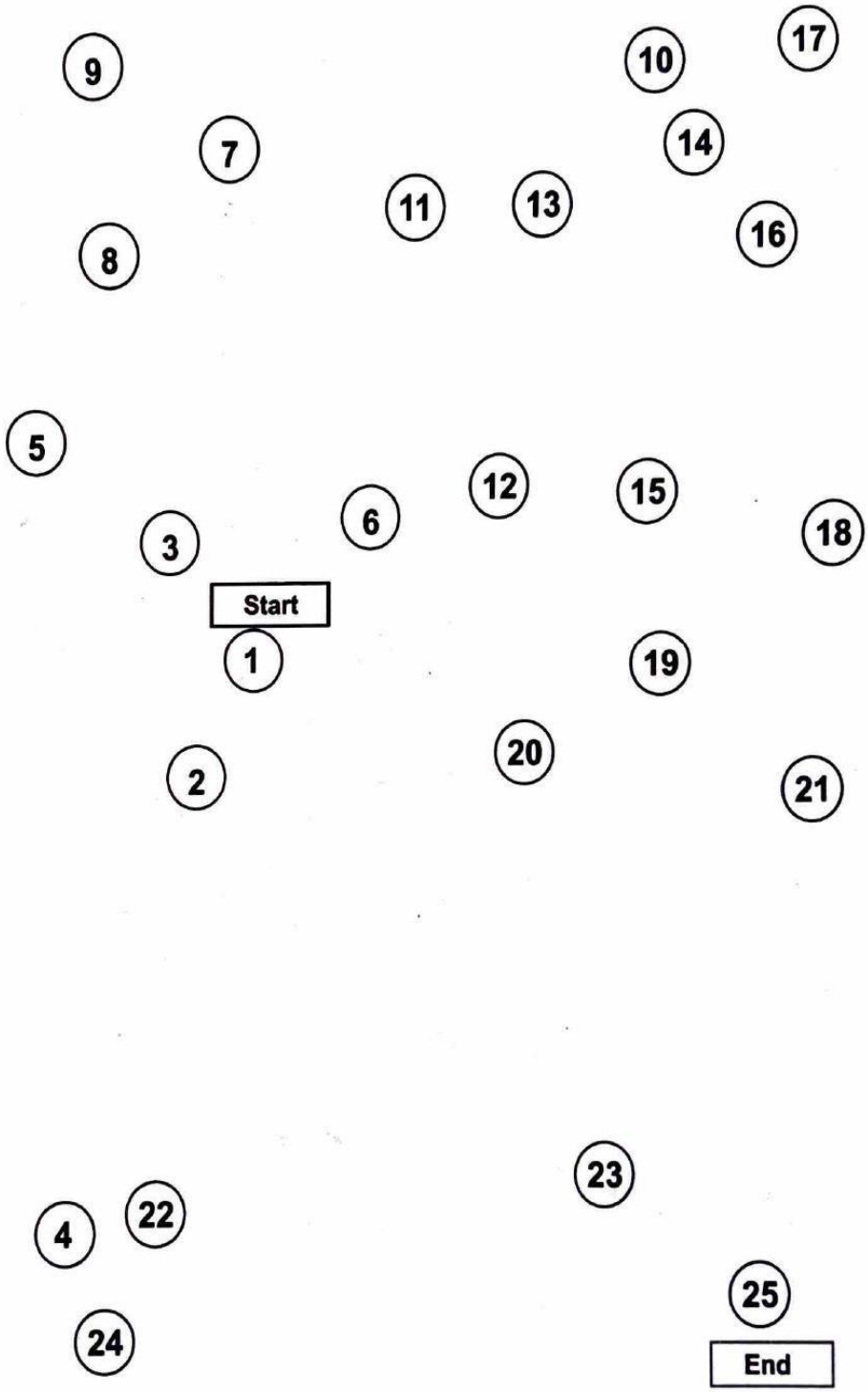
TRAIL 1



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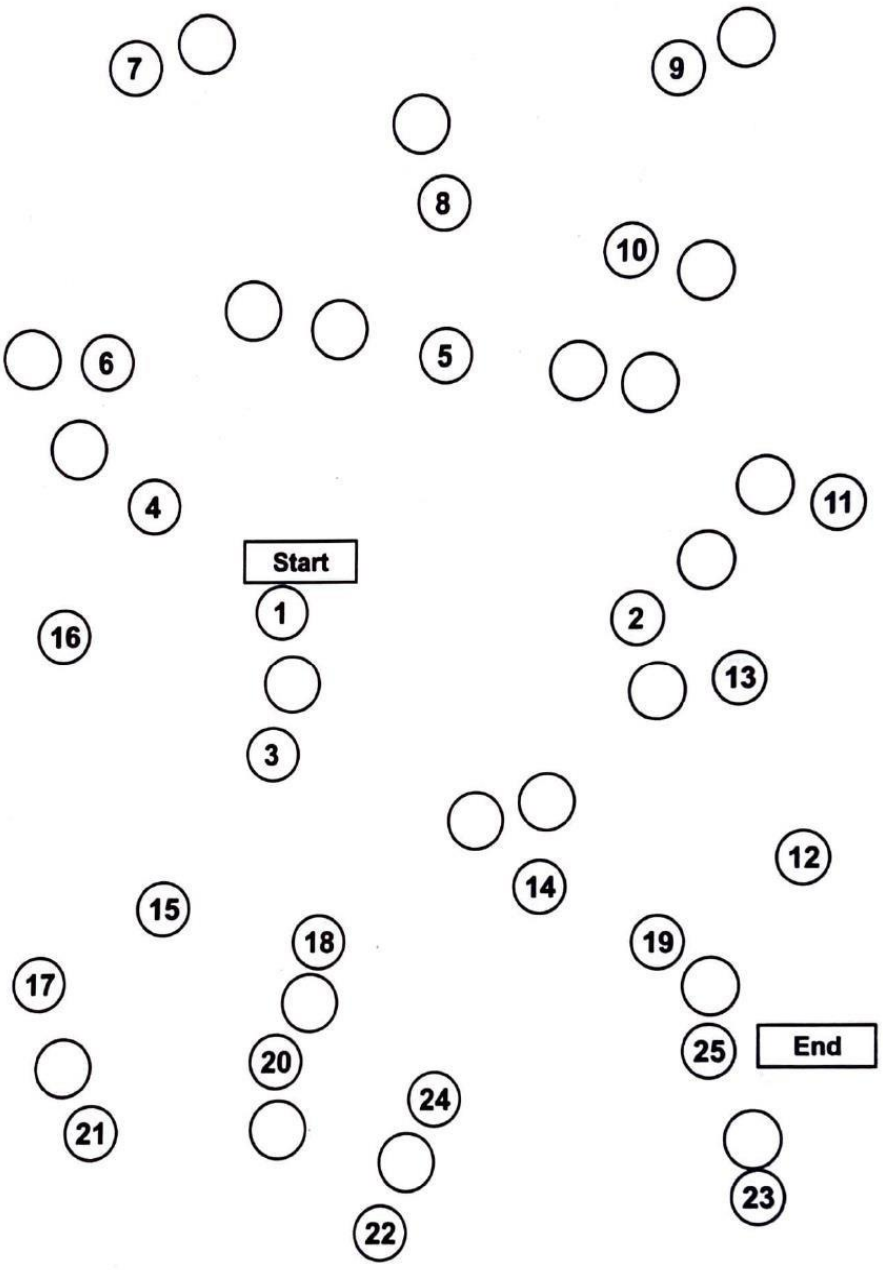

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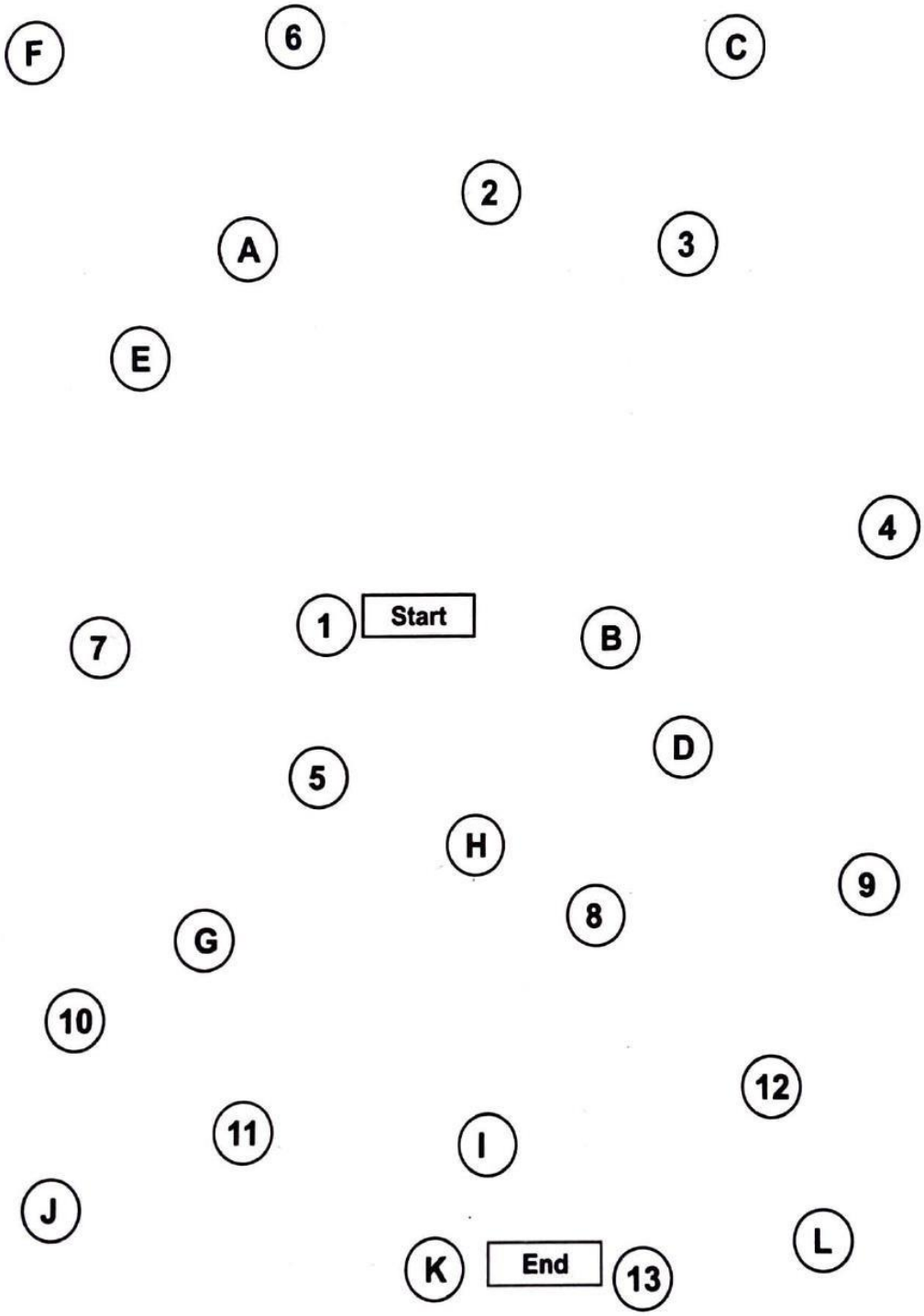

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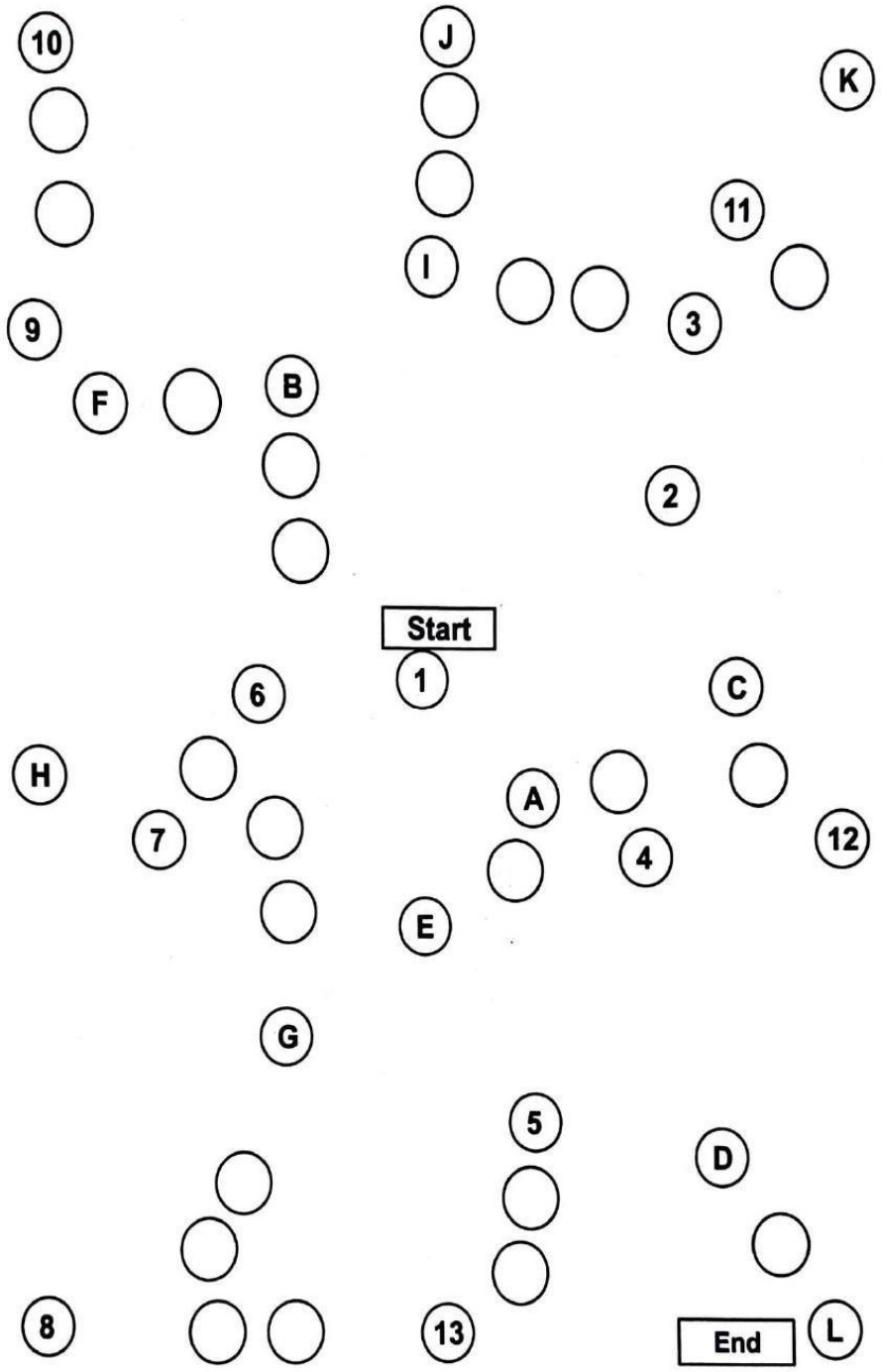

APPENDIX-5

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

Hare PCL–R: 2nd Edition
Robert D. Hare, Ph.D.

Client ID: _____ Age: _____ Gender: M F

Rater: _____ Date: ___/___/___ (mm dd yyyy)

Ratings should be made while reviewing the criteria found in the PCL–R: 2nd Edition Rating Booklet or Technical Manual. Circle the appropriate rating to the left of each item. For items 17–20, refer to the notes provided below. **Step-by-step instructions to complete this form can be found in chapter 2 of the PCL–R: 2nd Edition Technical Manual.**

No	Maybe	Yes	Omit		
0	1	2	X	1.	Glibness/Superficial Charm
0	1	2	X	2.	Grandiose Sense of Self Worth
0	1	2	X	3.	Need for Stimulation/Proneness to Boredom
0	1	2	X	4.	Pathological Lying
0	1	2	X	5.	Conning/Manipulative
0	1	2	X	6.	Lack of Remorse or Guilt
0	1	2	X	7.	Shallow Affect
0	1	2	X	8.	Callous/Lack of Empathy
0	1	2	X	9.	Parasitic Lifestyle
0	1	2	X	10.	Poor Behavioral Controls
0	1	2	X	11.	Promiscuous Sexual Behavior
0	1	2	X	12.	Early Behavioral Problems
0	1	2	X	13.	Lack of Realistic, Long-Term Goals
0	1	2	X	14.	Impulsivity
0	1	2	X	15.	Irresponsibility
0	1	2	X	16.	Failure to Accept Responsibility for Own Actions
0	1	2	X	17.	Many Short-Term Marital Relationships*
0	1	2	X	18.	Juvenile Delinquency**
0	1	2	X	19.	Revocation of Conditional Release**
0	1	2	X	20.	Criminal Versatility***

* If age is under 30 years: 0 = 0–1, 1 = 2, 2 = 3 or more, X = Omit.
If age is 30 years or over: 0 = 0–2, 1 = 3, 2 = 4 or more, X = Omit.
** 0 = no offenses, 1 = minor offense, 2 = major offense, X = Omit.
*** 0 = 0–3, 1 = 4–5, 2 = 6 or more, X = Omit.

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APPENDIX-6

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
RANCHI-834006

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HOW I THINK QUESTIONS (BARRIGA ET AL., 2001)

1. Disagree very strongly 2. Disagree strongly 3. Disagree
4. Agree 5. Agree strongly 6. Agree very strongly

No.	Cognitive distortions	1	2	3	4	5	6
	Self-centered (egocentric bias)						
3	Sometimes you have to lie to get what you want.	1	2	3	4	5	6
7	If I see something I like, I take it.	1	2	3	4	5	6
10	When I get mad, I don't care who get hurt.	1	2	3	4	5	6
22	If I really want something, it doesn't matter how I get it.	1	2	3	4	5	6
28	You should get what you need, even if it means someone has to get hurt.	1	2	3	4	5	6
37	Rules are mostly meant for *other* people.	1	2	3	4	5	6
42	Getting what you need is the only important thing.	1	2	3	4	5	6
52	If I lied to someone, that's my business.	1	2	3	4	5	6
54	If I really want to do something, I don't care if it's legal or not.	1	2	3	4	5	6
	Blaming others						
6	If I made a mistake, it's because I got mixed up with the wrong crowd.	1	2	3	4	5	6
11	If someone leaves a car unlocked, they are asking to have it stolen.	1	2	3	4	5	6
21	It's OK to tell a lie if someone is dumb enough to fall for it.	1	2	3	4	5	6
25	If a store or a home owner gets robbed, it's really their fault for not having better security.	1	2	3	4	5	6
26	People force you to lie if they ask too many questions.	1	2	3	4	5	6
36	People are always trying to start fights with me.	1	2	3	4	5	6
39	If someone is careless enough to lose a wallet, they deserve to have it stolen.	1	2	3	4	5	6
44	If people don't cooperate with me, it's not my fault if someone gets hurt.	1	2	3	4	5	6

46	When I lose my temper, it's because people try to make me mad.	1	2	3	4	5	6
50	Sometimes you have to hurt someone if you have a problem with them.	1	2	3	4	5	6
	Minimizing/mislabeling						
5	People need to be roughed up once in a while.	1	2	3	4	5	6
12	You have to get even with people who don't show you respect.	1	2	3	4	5	6
14	Everybody lies, it's no big deal.	1	2	3	4	5	6
17	If you know you can get away with it, only a fool wouldn't steal.	1	2	3	4	5	6
19	Only a coward would ever walk away from a fight.	1	2	3	4	5	6
30	Stores make enough money that's OK to just take the things you need.	1	2	3	4	5	6
33	A lie doesn't really matter if you don't know that person.	1	2	3	4	5	6
40	Everybody breaks the law, it's no big deal.	1	2	3	4	5	6
47	Taking a car doesn't really hurt anyone if nothing happens to the car and the owner gets it back.	1	2	3	4	5	6
	Assuming the worst						
2	I can't help losing my temper a lot.	1	2	3	4	5	6
8	You can't trust people because they will always lie to you.	1	2	3	4	5	6
15	It's no use trying to stay out of fights.	1	2	3	4	5	6
18	No matter how hard I try, I can't help getting in trouble.	1	2	3	4	5	6
23	If you don't push people around, you will always get picked on.	1	2	3	4	5	6
29	People are always trying to hassle me.	1	2	3	4	5	6
32	You should hurt people first, before they hurt you.	1	2	3	4	5	6
35	You might as well steal. If *you* don't take it, somebody *else* will.	1	2	3	4	5	6
43	You might as well steal. People would steal from you if they had the chance.	1	2	3	4	5	6
49	I might as well lie – when I tell the truth, people don't believe me anyway.	1	2	3	4	5	6
53	Everybody steals – you might as well get your share.	1	2	3	4	5	6
	Anomalous response						
13	Sometimes I gossip about other people.	1	2	3	4	5	6
20	I have sometimes said something bad about a friend.	1	2	3	4	5	6
27	I have tried to get even with someone.	1	2	3	4	5	6

31	In the past, I have lied to get myself out of trouble.	1	2	3	4	5	6
38	I have covered up things that I have done.	1	2	3	4	5	6
45	I have done bad things that I haven't told people about.	1	2	3	4	5	6
51	I have taken things without asking.	1	2	3	4	5	6
	Positive fillers						
1	People should try to work on their problems.	1	2	3	4	5	6
9	I am generous with my friends.	1	2	3	4	5	6
16	Everyone has the right to be happy.	1	2	3	4	5	6
24	Friends should be honest with each other.	1	2	3	4	5	6
34	It's important to think of other people's feelings.	1	2	3	4	5	6
41	When friends need you, you should be there for them.	1	2	3	4	5	6
48	Everybody needs help once in a while.	1	2	3	4	5	6

APPENDIX-7

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
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Name/ID: _____ Date: _____

DERS-18

Response categories:

1	2	3	4	5
Almost Never (0-10%)	Sometimes (11-35%)	About Half the Time (36-65%)	Most of the Time (66-90%)	Almost Always (91-100%)

1. _____ I pay attention to how I feel.
2. _____ I have no idea how I am feeling.
3. _____ I have difficulty making sense out of my feelings.
4. _____ I am attentive to my feelings.
5. _____ I am confused about how I feel.
6. _____ When I'm upset, I acknowledge my emotions.
7. _____ When I'm upset, I become embarrassed for feeling that way.
8. _____ When I'm upset, I have difficulty getting work done.
9. _____ When I'm upset, I become out of control.
10. _____ When I'm upset, I believe that I will remain that way for a long time.
11. _____ When I'm upset, I believe that I'll end up feeling very depressed.
12. _____ When I'm upset, I have difficulty focusing on other things.
13. _____ When I'm upset, I feel ashamed with myself for feeling that way.
14. _____ When I'm upset, I feel guilty for feeling that way.
15. _____ When I'm upset, I have difficulty concentrating.
16. _____ When I'm upset, I have difficulty controlling my behaviors.
17. _____ When I'm upset, I believe that wallowing in it is all I can do.
18. _____ When I'm upset, I lose control over my behaviors.

Original DERS (36 item) Citation: Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41-54.

DERS-18 (18 item) Reference: Victor, S. E., & Klonsky, E. D. (2016). Validation of a brief version of the Difficulties in Emotion Regulation Scale (DERS-18) in five samples. *Journal of Psychopathology and Behavioral Assessment, in press.*

APPENDIX-8

GOVERNMENT OF INDIA
CENTRAL INSTITUTE OF PSYCHIATRY
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"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

Rotter's Locus of Control Scale

For each question select the statement that you agree with the most

1. a. Children get into trouble because their patents punish them too much.

   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.

   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.

   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world

   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries

5. a. The idea that teachers are unfair to students is nonsense.

   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.

   b. Capable people who fail to become leaders hive not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.

   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality

   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.

   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.

    b. Many times exam questions tend to be so unrelated to course work that studying in really useless.

APPENDIX-9

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"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

5. Readiness to Change Questionnaire (Treatment Version) (RCQ-TV) (Revised)

Instructions: The following questions are designed to identify how you personally feel about your drinking right now. Please think about your current situation and drinking habits, even if you have given up drinking completely. Read each question below carefully, and then decide whether you agree or disagree with the statements. Please tick the answer of your choice to each question. If you have any problems, please ask the questionnaire administrator.
Your answers are completely private and confidential.
Key: SD = Strongly disagree; **D** = Disagree; **U** = Unsure; **A** = Agree; **SA** = Strongly agree

	SD	D	U	A	SA	For office use only
1. It's a waste of time thinking about my drinking because I do not have a problem.	☐	☐	☐	☐	☐	PC
2. I enjoy my drinking but sometimes I drink too much.	☐	☐	☐	☐	☐	C
3. There is nothing seriously wrong with my drinking.	☐	☐	☐	☐	☐	PC
4. Sometimes I think I should quit or cut down on my drinking.	☐	☐	☐	☐	☐	C
5. Anyone can talk about wanting to do something about their drinking, but I'm actually doing something about it.	☐	☐	☐	☐	☐	A
6. I am a fairly normal drinker.	☐	☐	☐	☐	☐	PC
7. My drinking is a problem sometimes.	☐	☐	☐	☐	☐	C
8. I am actually changing my drinking habits right now (either cutting down or quitting).	☐	☐	☐	☐	☐	A
9. I have started to carry out a plan to cut down or quit drinking.	☐	☐	☐	☐	☐	A
10. There is nothing I really need to change about my drinking.	☐	☐	☐	☐	☐	PC
11. Sometimes I wonder if my drinking is out of control	☐	☐	☐	☐	☐	C
12. I am actively working on my drinking problem.	☐	☐	☐	☐	☐	A

APPENDIX-10

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"Application of Integrative Psychotherapy on Emotional Dysregulation, Self-Serving Cognitive Distortions, Executive Dysfunction among patients of Substance Use Disorders with Antisocial Behavior: A Randomized Controlled Study"

Brief Substance Craving Scale

Agency Name: _____ **Site Name:** _____

ID #: _____ **Date:** __ __ / __ __ / __ __ __ __

STAFF USE ONLY

A. Identify the primary substance dependence for which the participant is being treated at this clinic.

Downers or Sedatives (Barbiturates, etc.) ❑1
Benzos (Valium, Xanax, etc.) ❑2
Hallucinogens (including ecstasy) ❑3
Alcohol ❑4
Heroin or other Opiates (Morphine, etc.) ❑5
Marijuana ❑6
Stimulants (cocaine, amphetamine) ❑7
Other (specify): _____ ❑8

Please answer the following questions with regard to your craving for the primary drug.

1. The INTENSITY of my craving, that is, how much I desired this drug in the past 24 hours was:

None at all ❑0
Slight ❑1
Moderate ❑2
Considerable ❑3
Extreme ❑4

2. The FREQUENCY of my craving, that is, how often I desired this drug in the past 24 hours was:

Never ❑0
Almost never ❑1
Several times ❑2
Regularly ❑3
Almost constantly ❑4

3. The LENGTH of time I spent in craving this drug during the past 24 hours was:

None at all ❑0
Very short ❑1
Short ❑2
Somewhat long ❑3
Very long ❑4

4. Write in the NUMBER of times you think you had craving for this drug during the past 24 hours. ___ ___

ID #: _____ Date: ___ ___ / ___ ___ / ___ ___ ___ ___

B. A second craved substance during the past 24 hours was:
Choose only ONE from the following. If NONE, please do not answer Questions 5-8.

None (STOP) ❑0
Downers or Sedatives (Barbiturates, etc.) ❑1
Benzos (Valium, Xanax, etc.) ❑2
Hallucinogens (including ecstasy) ❑3
Alcohol ❑4
Heroin or other Opiates (Morphine, etc.) ❑5
Marijuana ❑6
Stimulants (cocaine, amphetamine) ❑7
Other (specify): _____ ❑8

Please answer the following questions with regard to a second craved drug.

5. The INTENSITY of my craving, that is, how much I desired this drug in the past 24 hours was:

None at all ❑0
Slight ❑1
Moderate ❑2
Considerable ❑3
Extreme ❑4

6. The FREQUENCY of my craving, that is, how often I desired this drug in the past 24 hours was:

Never ❑0
Almost never ❑1
Several times ❑2
Regularly ❑3
Almost constantly ❑4

7. The LENGTH of time I spent in craving this drug during the past 24 hours was:

None at all ❑0
Very short ❑1
Short ❑2
Somewhat long ❑3
Very long ❑4

8. Write in the NUMBER of times you think you had craving for this drug during the past 24 hours. ___ ___

Reference: Somoza, E., Dyrenforth, S., Goldsmith, J., Mezinskis, J., & Cohen, M., 1995. In search of a universal drug craving scale. Paper presented at the Annual Meeting of the American Psychiatric Association, Miami Florida.